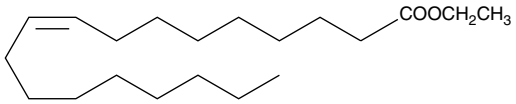
Product Information

Oleic Acid ethyl ester

Item No. 10008201

CAS Registry No.: 111-62-6
Formal Name: 9Z-octadecenoic acid, ethyl ester
Synonym: Ethyl Oleate
MF: $C_{20}H_{38}O_2$
FW: 310.5
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that oleic acid ethyl ester be stored as supplied at -20°C. It should be stable for at least one year.

Oleic acid ethyl ester is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of oleic acid ethyl ester in these solvents is approximately 100 mg/ml.

Oleic acid ethyl ester is sparingly soluble in aqueous buffers. Further dilutions of the organic solvent solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Oleic acid is a monounsaturated fatty acid and is one of the major components of membrane phospholipids. It contributes about 17% of the total fatty acids esterified to phosphatidylcholine in porcine platelets.[1] Oleic acid ethyl ester is a neutral, more lipid-soluble form of oleic acid. As the free acid, it inhibits collagen-stimulated platelet aggregation by approximately 90% at a concentration of 10 µg/ml.[1] It inhibits fMLF-induced neutrophil aggregation and degranulation by 55% and 68%, respectively, at 5 µM.[2] Oleic acid, whether applied extracellularly (EC_{50} = ~60 µM) to human platelets or released from membrane phospholipids, causes an increase in intracellular calcium levels.[3]

References

1. Wahle, K.W.J. and Peacock, L.I.L. Effects of isomeric *cis* and *trans* eighteen carbon monounsaturated fatty acids on porcine platelet function. *Biochim. Biophys. Acta* **1301**, 141-149 (1996).
2. Naccache, P.H., Moiski, T.F.P., Volpi, M., *et al.* Modulation of rabbit neutrophil aggregation and degranulation by free fatty acids. *J. Leukoc. Biol.* **36**, 333-340 (1984).
3. Siafaka-Kapadai, A., Hanahan, D.J., and Javors, M.A. Oleic acid-induced Ca^{2+} mobilization in human platelets: Is oleic acid an intracellular messenger? *J. Lipid Mediat. Cell Signal.* **15**, 215-232 (1997).

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Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com